



Supplemental Figure S1 - Proposed reaction mechanism outlining the formation of 1-phenylpropane-1,2-dione from benzoyl-CoA and pyruvate precursors. The decarboxylation of pyruvate by a ThPD-dependent enzyme yields a hydroxyethyl-thiamin diphosphate anion/enamine intermediate (only anion shown), which initiates nucleophilic attack at the carbonyl carbon of benzoyl-CoA. The resulting tetrahedral adduct undergoes rearrangement, releasing a CoA leaving group and generating 1-phenylpropane-1,2-dione product. Refer to text for details.